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EFFECTIVE USE OF FUNGICIDES AGAINST THE FILLOSTIKTOZNOY P YATNISTOSTYU APPLE LEAVES UNDER FERGHANA VALLEY

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ABSTRACT

The article presents the results of research and experience carried out in the conditions of the Ferghana Valley on the identification of the biological effectiveness of chemicals against £ illostiktoz fruit crops , which is caused by imperfect fungi of the genus Phyllosticta . As a result of the disease (scab of apple and pear trees, powdery mildew, moniliosis stone and pome rocks, leaf rolling, klyasterosporioz apricot, grape powdery mildew, anthracnose, etc.) each year occur in our gardens.

KEYWORDS: *Apple Tree, Cultivar, Jeromin, Red Chief, Red Dilishes Phyllostic Spotting, Fungicide, Hebenapl 40% , Triskabol76 % , Effective Use*

INTRODUCTION

The agriculture of Uzbekistan has been tasked with significantly expanding the area under orchards and vineyards. Agriculture produces basic food products as well as raw materials for food and other industries. The main task of the agro-industrial complex is to improve the quality of products, eliminate its losses at all stages of production, transportation and storage.

Since 2014, the area allotted for gardens has been expanding in Uzbekistan, intensive gardens have been created on an area of 5.6 thousand hectares. Gardens on an area of 4.1 thousand hectares and vineyards on an area of 6 thousand hectares were reconstructed. 410 hectares were developed for greenhouses.

In recent years, despite the lack of water supply, thanks to the efforts and labor of our farmers, a good harvest has been obtained and harvested. In particular, for 9 months this year, 6.7 million tons of vegetables (111% compared to 2013), 1.9 million tons of potatoes (111%), 1.2 million tons of melons and gourds (109 %), 1.7 million tons of fruits (115%) and 991.6 thousand tons of grapes (109%).

Gardening in the structure of agriculture in our Republic is traditionally considered one of the main and profitable areas. The fruits grown here are known in the world and are of good quality and high taste.

One of the most important tasks for improving the quality and quantity of fruits facing gardeners is to reduce losses from harmful organisms, in particular from the development of various plant diseases, the causative agents of which can be fungal, bacterial, viral, phytoplasmic organisms and nematodes.

Favorable climatic conditions of Uzbekistan for the development of plants are also favorable for the preservation and development of pathogens of various diseases. As a result of the disease (scab of apple and pear trees, powdery mildew, moniliosis stone and pome rocks, leaf rolling, klyasterosporioz apricot, grape powdery mildew, anthracnose, etc.) each year occur in our gardens. Therefore, in the absence of protective measures, we lose a significant part of the potential yield.

The main emphasis in solving these problems is given to chemical plant protection, on the one hand, this method is the most effective and easy to use, but it carries many negative aspects. First, the constant use of the chemical method, including non-selective drugs, leads to environmental pollution, toxic effects on other living organisms, including humans.

Preventive and agrotechnical measures carried out correctly and on time against plant diseases have a positive effect on reducing the population of pathogens, however, with a massive and strong development of diseases, they are not enough. In this connection, expanding the range of fungicides approved for use in Uzbekistan and their effective use is an important task in horticulture.

One of the most widespread and harmful disease in pome fruit crops in orchards Uzbekistan is n yatnistost apple leaves or F illostiktoz fruit crops .

Fillostiktoz fruit crops - a disease which is caused by imperfect fungi of the genus *Phyllosticta* . They form mottles characteristic of certain types of fungi.

On the apple tree, the most often isolated - *Phyllosticta mali* Pr . et Del . , *Phyllosticta briardi* Sacc . On pear and apple - *Phyllosticta pirina* Sacc . On quince - *Phyllosticta cedoniae* Sacc .

The infection is widespread, but it manifests itself periodically, mainly in foci.

Defeat the first symptoms of phyllostictosis often appear in late May - early June. By the middle of summer, a strong progression of the disease is noticeable. Pathogens affect mainly the leaves of the apple tree, less often quince and pear. On the leaf blades, the formation of necrotic, in most round, brownish spots is observed. In some cases, lesions appear on the fruits of the apple

tree in the form of medium-sized brown, slightly deepened dry specks, with a diameter of 5 mm to 8 mm.

The causative agents of the infection are fungi of the genus *Phyllosticta* , in some cases forming the teleomorphic (marsupial) stage - *Mycosphaerella spp .* Most often, *Phyllosticta mali* Pris isolated . et Del . ;

Phyllosticta briardi Sacc .; *Phyllosticta pirina* Sacc .; *Phyllosticta cydoniae* Sacc.

Phyllosticta mali Pr . et Del - affects the leaves of the apple tree, forms small rounded spots, at first brownish, later gray with a dark brown border. *Phyllosticta briardi* Sacc . - affects the leaves of the apple tree, forms light yellow rounded or somewhat angular spots, without a border, up to 5 mm in diameter. *Phyllosticta pirina* Sacc . - affects pear leaves, is less often noted on an apple tree, forms round or irregular spots, merging with each other. A characteristic symptom of the disease is the formation of black pycnidia with colorless unicellular pycnospores on the spots , differing in shape and size depending on the type of fungus. *Phyllosticta mali* Pr . et Del - ovoid or oval pycnospores . Disease-causing pathogens overwinter in the form of pycnidia on fallen leaves. Sometimes they form perithecia, in which bags with ascospores are formed (teleomorphic stage). Often the disease develops against the background of necrotic lesions caused by various reasons, including improper use of pesticides, necrotic spots of the causative agent of black cancer (apple tree), and others.

Warm, rainy weather contributes to the development of infection. In conditions of high humidity, pycnidia swell and release pycnospores , which leave the place of maturation with a mucous mass of a ribbon-like, wriggling shape. Some pycnospores are carried by wind, rain and insects, fall on leaves, germinate and form new areas of infection.

Fungicides registered in Uzbekistan against diseases of fruit crops occupy an important place in agricultural practice, however, it is of great importance that the country has a sufficiently wide range of highly effective and modern fungicides with different active ingredients, so that agricultural workers have the opportunity to provide the population with high-quality fruits and vegetables.

Fungicide Hebenepl 40% SK . experienced in the areas , planted apple varieties in Zheromin , Red Chief , Red Dilishes in farmer 's ozyaystvAndijan and Ferghana regions. The zone is located in a mountainous farming area. The gardens were laid out 10 years ago .

The treatments were carried out using a motorized knapsack sprayer with a calculated flow rate of the working fluid of 1000 l / ha. The experiments were laid in the morning hours, from 8 to 10 o'clock, when the air temperature did not exceed 26 ^{o}C and the wind speed was 1 m / s.

To account for the intensity of disease - scab applied scale Anpilogova (Giants et al., 1980), where the calculated percentage of diseased leaves (rating 0 - lesion otsutviem ; 1 point - struck to 1/5 the entire area or plants to 10% of the surface sheet 2 - affected up to 1/3 of the plant area or up to 25% of the leaf; 3 - affected up to 2/3 of the plant surface or up to 50% of the leaf surface; 4 - more than 2/3 of the plant or more than 50% of the leaf surface are affected), for moniliosis - 100 fruits for each point of 4-point scales according to the formula:

$$R = \sum (AB_1 + AB_2 + AB_3 + AB_4) / K$$

Where, R is the intensity of the disease,

A is the number of plants; $B_{1;}$ B_2 ; B_3 ; B_4 - points from 1 to 4.

$\sum$ (AB) - the sum of the products of the number of plants by the corresponding score

K - the highest score of the scale of accounting for the intensity of the lesion

The report shows the average values of the data for 10 trees

To calculate the biological effectiveness Hebenepl 40% SK . the treatment against leaf spot was carried out starting from the appearance of spots on the leaves (Khasanov et al., 2010).

Testing of the drug, conducting accounting and processing of digital material was carried out in accordance with the "Methodological instructions ..." of the State Chemical Commission of the Republic of Uzbekistan (2004). To determine the infection of oidium leaves and shoots, the scale recommended for taking into account the development of oidium on vine leaves was used according to A.E. Chumakov , I.I.Minkevich , T.I. Zakharova , 1973 (Zakharenko, Chenkin , 1985).

$$C = \frac{Rk - Ro}{Pk} - x\ 100$$

where: C - biological efficiency,%; Pк - indicator of the development of the disease under control; Ro is an indicator of the development of the disease in the experimental site (in the experiment), in terms of 15, 30 or 45 days, point.

Testing, subsequent accounting and calculations of biological effectiveness were carried out in accordance with the "Methodological instructions ..." (2004), approved by the State Chemical Commission of RUz .

Experience scheme:

1) Hebenepl 40% SK . - 0.55 l / ha
2) Hebenapl 40% drymatter - 0.754 l / ha
3) Triskabol 76% dg - 0.3 l / ha (reference)
4) Control - noprocessing

Fungicide Hebenepl 40% SK . It was tested against the disease on apple n leaf spot, causing enormous damage to fruit growing in Uzbekistan.

The tests were carried out against the background of infection with n leaf spot of apple trees at the level of 6.9-12.8%.

The final analysis showed that when the fungicide Hebenapl was treated with 40% d.c. at a rate of 0.55 l / ha against leaf blight on apple trees, the biological efficiency was 83.8%.

The biological efficacy of the fungicide Hebenepl 40% s.k.v flow rate 0 75 l / ha against disease n yatnistost leaves on apple was 91.5%.

The biological efficacy of the reference drug Triskabol is 76% SDG. was perceptibly high for all counting periods and amounted to 88.9 % on leaves, respectively (Table 1).

TABLE 1 THE BIOLOGICAL EFFECTIVENESS OF THE FUNGICIDE HEBENAPL IS 40% DRY MATTER . AGAINST DISEASE SPOTTING OF APPLE TREES (PRODUCTION EXPERIENCE, FERGANA REGION, KUVA DISTRICT, "ROHATOI" FARM

No.	Variants	Consumption rate of the drug, kg, l / ha	Leaves		
			Damage ,%	Disease development,%	Biological efficiency,%
1	Hebenepl40%sk	0, 55	12.8	6.1	83.8
2	Hebenepl 40% sk .	0, 75	6.9	3.2	91.5
3	Triskabol 76% dg	0.3	11.0	4.2	88.9
4	Control (noprocessing)	-	37.8	17.4	-

Thus, a fungicide Hebenepl 40% SK . is highly effective when applied against diseases n leaf spot in on apple a flow rate 0, 55 0, 75 l / ha, in connection with which the drug must be included in the "List ..." to combat these diseases in gardens.

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